STATIONARY SOURCE PERMIT TO OPERATE

This permit replaces your permit dated August 12, 2004
as amended April 16, 2007 and February 21, 2008.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

R. R. Donnelley & Sons Company –
Harrisonburg Manufacturing South
1025 Willow Spring Road
Harrisonburg, Virginia 22801
Registration No.: 80816

is authorized to operate

a book printing facility

located at

1025 Willow Spring Road
Harrisonburg, Virginia 22801

in accordance with the Conditions of this permit.

Approved on August 12, 2004

Amended on April 16, 2007

Amended on February 21, 2008

Amended on DRAFT

Deputy Regional Director, Valley Region

Permit consists of 5 pages.
Permit Conditions 1 to 10.
Attachment A, 5 pages.

INTRODUCTION

This permit approval is based on the permit applications dated July 9, 1999, April 20, 2004, March 29, 2007, December 10, 2007, and October 24, 2011, including amendment information dated August 26, 1999, August 30, 1999, September 7, 1999, October 27, 1999, and January 13, 2000, and supplemental information dated May 4, 2004 and December 3, 2007. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.

Words or terms used in this permit shall have meanings as provided in 9 VAC 5-10-20 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition.

Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact.

The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

PROCESS REQUIREMENTS

1. **Equipment List** - Equipment to be operated at this facility consists of:

Reference No.	Equipment Description	Rated Capacity
Press No. 17 (formerly Ref. 10)	Timson T-32 heatset web lithographic printing press consisting of two printing units each having 47-inch web width and two natural gas- or LPG-fired dryers	Press web speed rated at 1450 fpm; dryers (combined) rated at 6.674 Million Btu /hr
Press No. 22 (formerly Ref. 5)	Timson T-32 heatset web lithographic printing press consisting of two printing units each having 40-inch web width and two natural gas- or LPG-fired dryers	Press web speed rated at 1000 fpm; dryers (combined) rated at 3.85 Million Btu/hr
Press No. 23 (formerly Ref. 6)	Timson T-32 heatset web lithographic printing press consisting of two printing units each having 40-inch web width and two natural gas- or LPG-fired dryers	Press web speed rated at 1000 fpm; dryers (combined) rated at 3.85 Million Btu/hr
Press No.24 (formerly Ref. 11)	Timson T-48 heatset web lithographic printing press consisting of two printing units each having 54-inch web width and two natural gas- or LPG-fired dryers	Press web speed rated at 2000 fpm; dryers (combined) rated at 9.28 Million Btu/hr

Reference No.	Equipment Description	Rated Capacity
Press No. 25	Timson T-48 heatset web lithographic printing press consisting of one printing unit having 54-inch web width and one natural gas- or LPG-fired dryer	Press web speed rated at 1500 feet per minute (fpm); dryer rated at 2.58 Million Btu/hr
Press No. 30	Timson T48 ZMR Single Web Offset Printing Press consisting of two printing units each having a 48 inch web width and including one natural gas- or LPG-fired dryer	1570 feet per minute (fpm); dryer rated at 2.89 Million Btu/hr

Specifications included in the permit under this Condition are for informational purposes only and do not form enforceable terms or conditions of the permit.
(9 VAC 5-80-850)

OPERATING/EMISSION LIMITATIONS

2. **Emission Limits: Hazardous Air Pollutants (P2)** - Hazardous air pollutant (HAP) emissions, as defined by §112(b) of the Clean Air Act, from the facility shall not exceed 9.0 tons per year of any individual HAP or 24.0 tons per year of any combination, calculated monthly as the sum of each consecutive 12-month period. HAPs which are not accompanied by a specific CAS number (as listed in Attachment A) shall be calculated as the sum of all compounds containing the named chemical when determining compliance with the individual HAP emissions limitation of 9.0 tons per year.
(9 VAC 5-80-850)

RECORDS

3. **On Site Records -** The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the DEQ. These records shall include, but are not limited to:

   a. Annual throughput (in pounds) of each material containing HAPs used at the facility. Annual throughputs shall be calculated monthly as the sum of each consecutive 12-month period.

   b. Annual throughput (in cubic feet) of each fuel used in the press dryers and oxidizers. Annual throughputs shall be calculated monthly as the sum of each consecutive 12-month period.

   c. Monthly and annual emissions (in tons) to verify compliance with the individual and total HAP emission limitations in Condition 2. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.

   d. Material Safety Data Sheets (MSDS) or other vendor information showing HAP content for each material containing HAPs used at the facility.

   e. Scheduled and unscheduled maintenance and operator training.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-900 and 9 VAC 5-50-50)

GENERAL CONDITIONS

4. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

   a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

   b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;

   c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and

   d. To sample or test at reasonable times.

   For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.
   (9 VAC 5-170-130 and 9 VAC 5-80-850)

5. **Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the DEQ of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the DEQ in writing.
   (9 VAC 5-20-180 C and 9 VAC 5-80-850)

6. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
   (9 VAC 5-20-180 I and 9 VAC 5-80-850)

7. **Maintenance/Operating Procedures** - The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

   a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

b. Maintain an inventory of spare parts.

c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

e. Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.

(9 VAC 5-50-20 E and 9 VAC 5-80-850)

8. **Permit Suspension/Revocation** - This permit may be suspended or revoked if the permittee:

a. Knowingly makes material misstatements in the application for this permit or any amendments to it;

b. Fails to comply with the conditions of this permit;

c. Fails to comply with any emission standards applicable to a permitted emissions unit;

d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;

e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect on the date that the application for this permit is submitted; or

f. Fails to operate this facility in accordance with the application for this permit or any amendments to it.

(9 VAC 5-80-1010)

9. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the DEQ of the change in ownership within 30 days of the transfer.
(9 VAC 5-80-940)

10. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-80-860 D)

ATTACHMENT A – HAZARDOUS AIR POLLUTANT LIST

Note 1: Emissions for pollutant listings which do not have a specific CAS number must be totaled when determining major source applicability under Title V and for HAP regulations (i.e. 112(g) & (d)).

CAS#	NAME
see Note 1	ANTIMONY COMPOUNDS [1]
see Note 1	ARSENIC COMPOUNDS
see Note 1	BERYLLIUM COMPOUNDS
see Note 1	CADMIUM COMPOUNDS
see Note 1	CHROMIUM COMPOUNDS
see Note 1	COBALT COMPOUNDS
see Note 1	COKE OVEN EMISSIONS
see Note 1	CYANIDE COMPOUNDS [2]
see Note 1	GLYCOL ETHERS [3]
see Note 1	LEAD COMPOUNDS
see Note 1	MANGANESE COMPOUNDS
see Note 1	MERCURY COMPOUNDS
see Note 1	NICKEL COMPOUNDS
see Note 1	POLYCYCLIC ORGANIC MATTER/POM [4]
see Note 1	SELENIUM COMPOUNDS

CAS#	NAME
50 00 0	FORMALDEHYDE
51 28 5	2,4-DINITROPHENOL
51 79 6	ETHYL CARBAMATE/URETHANE
53 96 3	2-ACETYLAMINOFLUORENE
56 23 5	CARBON TETRACHLORIDE
56 38 2	PARATHION
57 14 7	1,1-DIMETHYLHYDRAZINE
57 57 8	BETA-PROPIOLACTONE
57 74 9	CHLORDANE
58 89 9	LINDANE (AND ALL OTHER STEREOISOMERS OF 1,2,3,4,5,6- HEXACHLOROCYCLOHEXANE)
59 89 2	N-NITROSOMORPHOLINE/NMOR
60 11 7	DIMETHYL AMINOAZOBENZENE/ 4-DIMETHYLAMINOAZOBENZENE
60 34 4	METHYL HYDRAZINE
60 35 5	ACETAMIDE
62 53 3	ANILINE & HOMOLOGUES
62 73 7	DICHLORVOS
62 75 9	N-NITROSODIMETHYLAMINE/NDMA
63 25 2	CARBARYL
64 67 5	DIETHYL SULFATE
67 56 1	METHANOL
67 66 3	CHLOROFORM
67 72 1	HEXACHLOROETHANE

68	12	2	DIMETHYLFORMAMIDE/N,N-DIMETHYLFORMAMIDE
71	43	2	BENZENE (INCLUDING BENZENE FROM GASOLINE)
71	55	6	METHYL CHLOROFORM/1,1,1-TRICHLOROETHANE
72	43	5	METHOXYCHLOR
72	55	9	2,2-BIS(P-CHLORPHENYL)-1,1-DICHLOROETHYLENE/DDE
74	83	9	METHYL BROMIDE/BROMOMETHANE
74	87	3	METHYL CHLORIDE/CHLOROMETHANE
74	88	4	METHYL IODIDE/IODOMETHANE
75	00	3	ETHYL CHLORIDE/CHLOROETHANE
75	01	4	VINYL CHLORIDE/CHLOROETHYLENE
75	05	8	ACETONITRILE
75	07	0	ACETALDEHYDE
75	09	2	METHYLENE CHLORIDE/DICHLOROMETHANE
75	15	0	CARBON DISULFIDE
75	21	8	ETHYLENE OXIDE
75	25	2	BROMOFORM
75	34	3	1,1-DICHLOROETHANE/ETHYLIDENE DICHLORIDE
75	35	4	VINYLIDENE CHLORIDE/1,1-DICHLOROETHYLENE
75	44	5	PHOSGENE/CARBONYLCHLORIDE
75	55	8	1,2-PROPYLENE IMINE
75	56	9	PROPYLENE OXIDE/1,2-EPOXYPROPANE
76	44	8	HEPTACHLOR
77	47	4	HEXACHLOROCYCLOPENTADIENE
77	78	1	DIMETHYL SULFATE
78	59	1	ISOPHORONE
78	87	5	PROPYLENE DICHLORIDE/1,2-DICHLOROPROPANE
79	00	5	1,1,2-TRICHLOROETHANE
79	01	6	TRICHLOROETHYLENE
79	06	1	ACRYLAMIDE
79	10	7	ACRYLIC ACID
79	11	8	CHLORACETIC ACID
79	34	5	1,1,2,2-TETRACHLOROETHANE
79	44	7	DIMETHYL CARBAMOYL CHLORIDE
79	46	9	2-NITROPROPANE
80	62	6	METHYL METHACRYLATE
82	68	8	PENTACHLORONITROBENZENE/QUINTOBENZENE
84	74	2	DIBUTYL PHTHLATE
85	44	9	PHTHALIC ANHYDRIDE
87	68	3	HEXACHLOROBUTADIENE
87	86	5	PENTACHLOROPHENOL
88	06	2	2,4,6-TRICHLOROPHENYL
90	04	0	O-ANISIDINE
91	20	3	NAPHTHALENE
91	22	5	QUINOLINE
91	94	1	3,3'-DICHLOROBENZIDENE
92	52	4	BIPHENYL
92	67	1	4-AMINODIPHENYL
92	87	5	BENZIDINE

92	93	3	4-NITRODIPHENYL
94	75	7	2,4-D, (DICHLOROPHENOXY/ACETIC ACID) (INCLUDING SALTS AND ESTERS)
95	95	4	2,4,5-TRICHLOROPHENOL
95	47	6	O-XYLENE
95	48	7	O-CRESOL
95	53	4	O-TOLUIDINE
95	80	7	2,4-TOLUENE DIAMINE/TOLUENE-2,4-DIAMINE
96	09	3	STYRENE OXIDE
96	12	8	1,2-DIBROMO-3-CHLOROPROPANE
96	45	7	ETHYLENE THIOUREA/ETU
98	07	7	BENZOTRICHLORIDE
98	82	8	CUMENE
98	86	2	ACETOPHENONE
98	95	3	NITROBENZENE
100	02	7	4-NITROPHENOL
100	41	4	ETHYL BENZENE
100	42	5	STYRENE, MONOMER/VINYL BENZENE
100	44	7	BENZYL CHLORIDE
101	14	4	4,4-METHYLENE BIS(2-CHLOROANILINE)
101	68	8	4,4'-METHYLENEDIPHENYL DIISOCYANATE/MDI
101	77	9	4,4-METHYLENE DIANILINE
106	42	3	P-XYLENE
106	44	5	P-CRESOL
106	46	7	1,4-DICHLOROBENZENE
106	50	3	P-PHENYLENEDIAMINE
106	51	4	QUINONE
106	88	7	1,2-EPOXYBUTANE
106	89	8	EPICHLOROHYDRIN
106	93	4	ETHYLENE DIBROMIDE/EDB/1,2-DIBROMOETHANE
106	99	0	1,3-BUTADIENE
107	02	8	ACROLEIN
107	05	1	ALLYL CHLORIDE
107	06	2	1,2-DICHLOROETHANE/ETHYLENE DICHLORIDE
107	13	1	ACRYLONITRILE
107	21	1	ETHYLENE GLYCOL
107	30	2	CHLOROMETHYL METHYL ETHER/CMME
108	90	7	CHLOROBENZENE
108	05	4	VINYL ACETATE
108	10	1	METHYL ISOBUTYL KETONE/HEXONE
108	31	6	MALEIC ANHYDRIDE
108	38	3	M-XYLENE
108	39	4	M-CRESOL
108	88	3	TOLUENE
108	95	2	PHENOL
109	59	1	ISOPROPOXYETHANOL [3]
109	86	4	2-METHOXYETHANOL [3]
110	54	3	HEXANE

110	80	5	2-ETHOXYETHANOL [3]
111	42	2	DIETHANOLAMINE
111	44	4	DICHLOROETHYL ETHER/BIS(2-CHLOROETHYL)ETHER
114	26	1	PROPOXUR/BAYGON
117	81	7	DI-SEC-OCTYL PHTHLATE/BIS(2-ETHYLHEXYL)PHTHALATE
118	74	1	HEXACHLOROBENZENE
119	90	4	3,3-DIMETHOXYBENZIDINE
119	93	7	3,3-DIMETHYLBENZIDINE
120	80	9	CATECHOL
120	82	1	1,2,4-TRICHLOROBENZENE
121	14	2	2,4-DINITROTOLUENE
121	44	8	TRIETHYLAMINE
121	69	7	DIMETHYLANILINE
122	66	7	1,2-DIPHENYLHYDRAZINE
123	31	9	HYDROQUINONE/DIHYDROXYBENZENE
123	38	6	PROPIONALDEHYDE
123	91	1	1,4-DIOXANE/1,4-DIETHYLENEOXIDE
126	99	8	2-CHLORO-1,3-BUTADIENE/BETA-CHLOROPRENE
127	18	4	TETRACHLOROETHYLENE/PERCHLOROETHYLENE
131	11	3	DIMETHYL PHTHALATE
132	64	9	DIBENZOFURANS
133	06	2	CAPTAN
133	90	4	CHLORAMBEN
140	88	5	ETHYL ACRYLATE
151	56	4	ETHYLENIMINE
156	62	7	CALCIUM CYANAMIDE
302	01	2	HYDRAZINE
334	88	3	DIAZOMETHANE
463	58	1	CARBONYL SULFIDE
510	15	6	CHLOROBENZILATE
532	27	4	2-CHLOROACETOPHENONE
534	52	1	4,6-DINITRO-O-CRESOL (INCLUDING SALTS)
540	84	1	2,2,4-TRIMETHYLPENTANE
542	07	6	1,3-DICHLOROPROPENE
542	88	1	BIS-(CHLOROMETHYL) ETHER
584	84	9	TOLUENE-2,4-DIISOCYANATE/TDI
593	60	2	VINYL BROMIDE
624	83	9	METHYL ISOCYANATE
680	31	9	HEXAMETHYL PHOSPHORAMIDE/HMPA
684	93	5	N-NITROSO-N-METHYLUREA/NMU
822	06	0	HEXAMETHYLENE DIISOCYANATE
1120	71	4	1,3-PROPANE SULTONE
1319	77	3	CRESOLS/CRESYLIC ACID
1330	20	7	XYLENE ISOMERS AND MIXTURES
1336	36	3	POLYCHLORINATED BIPHENYLS/AROCHLORS
1582	09	8	TRIFLURALIN
1634	04	4	METHYL TERT BUTYL ETHER
1746	01	6	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN

7550	45	0	TITANIUM TETRACHLORIDE
7647	01	0	HYDROGEN CHLORIDE/HYDROCHLORIC ACID (GAS ONLY)
7664	39	3	HYDROGEN FLUORIDE/HYDROFLUORIC ACID
7723	14	0	PHOSPHOROUS
7782	50	5	CHLORINE
7803	51	2	PHOSPHINE
8001	35	2	TOXAPHENE/CHLORINATED CAMPHENE

The following pollutants and pollutant source categories are listed as HAPs under section 112(b) but are excluded from the definitions of toxics in the Virginia Regulations:

1. Asbestos NESHAP, 40 CFR 61 Subpart M (for asbestos removal, demolition and installation contact Virginia Department of Labor – 804/786-8009).
2. Fine Mineral Fibers.
3. Radionuclides (including radon).

1 For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical as part of that chemical's infrastructure.

2 X'CN where X=H' or any other group where a formal dissociation may occur. For example, KCN or $Ca(CN)_2$.

3 Glycol ethers include mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol $R-(OCH_2CH_2)_n-OR'$
where: n = 1, 2, or 3
R = alkyl C7 or less, or phenyl or alkyl substituted phenyl
R' = H, or alkyl C7 or less, or carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate

2-Ethoxyethanol, Isopropoxyethanol, and 2-Methoxyethanol meet this definition, but are considered as only one HAP (glycol ethers) for Title V and CAAA §112 purposes. They are also listed individually in this table as a reminder that because they have TLVs, they must be considered separately under Virginia's Toxic Pollutant regulations (9 VAC 5 Chapter 60, Articles 4 and 5).

4 Includes substituted and/or unsubstituted polycyclic aromatic hydrocarbons and aromatic heterocycle compounds, with two or more fused rings, at least one of which is benzenoid in structure. Polycyclic Organic Matter is a mixture of organic compounds containing one or more of these polycyclic aromatic chemicals which include dioxins and furans. Polycyclic Organic Matter is generally formed or emitted during thermal processes including (1) incomplete combustion, (2) pyrolysis, (3) the volatilization, distillation or processing of fossil fuels or bitumens, or (4) the distillation or thermal processing of non-fossil fuels.